



1

SEQUENCE LISTING

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HARTH, GUNTER
LEE, BAI-YU

<120> ABUNDANT EXTRACELLULAR PRODUCTS AND METHODS FOR THEIR PRODUCTION
AND USE

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<141> 2003-10-27

<150> 08/652,842

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<150> 08/568,357

<151> 1995-12-06

<150> 08/551,149

<151> 1995-10-31

<150> 08/447,398

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<150> 08/289,667

<151> 1994-08-12

<150> 08/156,358

<151> 1993-11-23

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 Ile Gly Thr Ala Ala Val Val Leu Pro Gly Leu Val Gly Leu Ala
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 Glu Tyr Leu Gln Val Pro Ser Pro Ser Met Gly Arg Asp Ile Lys Val
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10	15																																																						
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Arg Leu Val Val Gly Ala Val Gly Ala Ala Leu Val Ser Gly Leu Val																																																							
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<210> 42
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<400> 42
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<210> 43
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<210> 44
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<210> 45
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<210> 62
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<210> 63
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<212> PRT
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1 5 10 15

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<210> 66
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1 5 10 15

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<210> 69
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<210> 70
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5 10 15
1

<210> 72
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5 10 15
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Gly Pro Ser Ser Asp Pro Ala Trp Glu Arg Asn Asp Pro Thr Gln
1 5 10 15

<210> 74
<211> 15
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<213> *Mycobacterium tuberculosis*

<400> 74
Pro Ala Trp Glu Arg Asn Asp Pro Thr Gln Gln Ile Pro Lys Leu
1 5 10 15

<210> 75
<211> 15
<212> PRT
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<400> 75
Asn Asp Pro Thr Gln Gln Ile Pro Lys Leu Val Ala Asn Asn Thr
1 5 10 15

<210> 76
<211> 15
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<400> 76
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1 5 10 15

<210> 77
<211> 15
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<400> 77
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1 5 10 15

<210> 78
<211> 15
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<213> *Mycobacterium tuberculosis*

<400> 78
Arg Leu Trp Val Tyr Cys Gly Asn Gly Thr Pro Asn Glu Leu Gly
1 5 10 15

<210> 79
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<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 79
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1 5 10 15

<210> 80
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1 5 10 15

<210> 81
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1 5 10 15

<210> 82
<211> 15
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1 5 10 15

<210> 83
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 83
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1 5 10 15

<210> 84

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 84

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1 5 10 15

<210> 85

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 85

Gln Asp Ala Tyr Asn Ala Ala Gly Gly His Asn Ala Val Phe Asn
1 5 10 15

<210> 86

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 86

Ala Ala Gly Gly His Asn Ala Val Phe Asn Phe Pro Pro Asn Gly
1 5 10 15

<210> 87

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 87

Asn Ala Val Phe Asn Phe Pro Pro Asn Gly Thr His Ser Trp Glu
1 5 10 15

<210> 88

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 88

Phe Pro Pro Asn Gly Thr His Ser Trp Glu Tyr Trp Gly Ala Gln
1 5 10 15

<210> 89

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 89

Thr	His	Ser	Trp	Glu	Tyr	Trp	Gly	Ala	Gln	Leu	Asn	Ala	Met	Lys
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<210> 90

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 90

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<210> 91

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 91

Leu	Asn	Ala	Met	Lys	Gly	Asp	Leu	Gln	Ser	Ser	Leu	Gly	Ala	Gly
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<210> 92

<211> 480

<212> DNA

<213> *Mycobacterium tuberculosis*

<220>

<221> CDS

<222> (1)..(480)

<400> 92

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Met	Lys	Leu	Thr	Met	Ile	Lys	Thr	Ala	Val	Ala	Val	Val	Ala	Met		
1		5						10					15			

gct	gcc	atc	gct	acc	ttt	gct	gca	ccg	gtc	gct	ttt	gct	gcc	tat	ccc	96
Ala	Ala	Ile	Ala	Thr	Phe	Ala	Ala	Pro	Val	Ala	Leu	Ala	Ala	Tyr	Pro	
								20		25			30			

atc	acc	gaa	aaa	ctt	ggc	agt	gag	cta	acg	atg	acc	gac	acc	gtt	ggc	144
Ile	Thr	Glu	Lys	Leu	Gly	Ser	Glu	Leu	Thr	Met	Thr	Asp	Thr	Val	Gly	
								35		40		45				

caa	gtc	gtg	ctc	ggc	tgg	aag	gtc	agt	gat	ctc	aaa	tcc	agc	acg	gca	192
Gln	Val	Val	Leu	Gly	Trp	Lys	Val	Ser	Asp	Leu	Lys	Ser	Ser	Thr	Ala	
								50		55		60				

gtc atc ccc ggc tat ccg gtg gcc ggc cag gtc tgg gag gcc act gcc	240
Val Ile Pro Gly Tyr Pro Val Ala Gly Gln Val Trp Glu Ala Thr Ala	
65 70 75 80	
acg gtc aat gcg att cgc ggc agc gtc acg ccc gcg gtc tcg cag ttc	288
Thr Val Asn Ala Ile Arg Gly Ser Val Thr Pro Ala Val Ser Gln Phe	
85 90 95	
aat gcc cgc acc gcc gac ggc atc aac tac cgg gtg ctg tgg caa gcc	336
Asn Ala Arg Thr Ala Asp Gly Ile Asn Tyr Arg Val Leu Trp Gln Ala	
100 105 110	
gcg ggc ccc gac acc att agc gga gcc act atc ccc caa ggc gaa caa	384
Ala Gly Pro Asp Thr Ile Ser Gly Ala Thr Ile Pro Gln Gly Glu Gln	
115 120 125	
tcg acc ggc aaa atc tac ttc gat gtc acc ggc cca tcg cca acc atc	432
Ser Thr Gly Lys Ile Tyr Phe Asp Val Thr Gly Pro Ser Pro Thr Ile	
130 135 140	
gtc gcg atg aac aac ggc atg gag gat ctg ctg att tgg gag ccg tag	480
Val Ala Met Asn Asn Gly Met Glu Asp Leu Leu Ile Trp Glu Pro	
145 150 155 160	

<210> 93
 <211> 1437
 <212> DNA
 <213> *Mycobacterium tuberculosis*

<220>
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 <222> (1)...(1434)

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Val Thr Glu Lys Thr Pro Asp Asp Val Phe Lys Leu Ala Lys Asp Glu	
1 5 10 15	
aag gtc gaa tat gtc gac gtc cgg ttc tgt gac ctg cct ggc atc atg	96
Lys Val Glu Tyr Val Asp Val Arg Phe Cys Asp Leu Pro Gly Ile Met	
20 25 30	
cag cac ttc acg att ccg gct tcg gcc ttt gac aag agc gtg ttt gac	144
Gln His Phe Thr Ile Pro Ala Ser Ala Phe Asp Lys Ser Val Phe Asp	
35 40 45	
gac ggc ttg gcc ttt gac ggc tcg tcg att cgc ggg ttc cag tcg atc	192
Asp Gly Leu Ala Phe Asp Gly Ser Ser Ile Arg Gly Phe Gln Ser Ile	
50 55 60	

cac gaa tcc gac atg ttg ctt ctt ccc gat ccc gag acg gcg cgc atc			240
His Glu Ser Asp Met Leu Leu Leu Pro Asp Pro Glu Thr Ala Arg Ile			
65	70	75	80
gac ccg ttc cgc gcg gcc aag acg ctg aat atc aac ttc ttt gtg cac			288
Asp Pro Phe Arg Ala Ala Lys Thr Leu Asn Ile Asn Phe Phe Val His			
85	90	95	
gac ccg ttc acc ctg gag ccg tac tcc cgc gac ccg cgc aac atc gcc			336
Asp Pro Phe Thr Leu Glu Pro Tyr Ser Arg Asp Pro Arg Asn Ile Ala			
100	105	110	
cgc aag gcc gag aac tac ctg atc agc act ggc atc gcc gac acc gca			384
Arg Lys Ala Glu Asn Tyr Leu Ile Ser Thr Gly Ile Ala Asp Thr Ala			
115	120	125	
tac ttc ggc gcc gag gcc gag ttc tac att ttc gat tcg gtg agc ttc			432
Tyr Phe Gly Ala Glu Ala Glu Phe Tyr Ile Phe Asp Ser Val Ser Phe			
130	135	140	
gac tcg cgc gcc aac ggc tcc ttc tac gag gtg gac gcc atc tcg ggg			480
Asp Ser Arg Ala Asn Gly Ser Phe Tyr Glu Val Asp Ala Ile Ser Gly			
145	150	155	160
tgg tgg aac acc ggc gcg acc gag ggc gac ggc agt ccc aac cgg			528
Trp Trp Asn Thr Gly Ala Ala Thr Glu Ala Asp Gly Ser Pro Asn Arg			
165	170	175	
ggc tac aag gtc cgc cac aag ggc ggg tat ttc cca gtg gcc ccc aac			576
Gly Tyr Lys Val Arg His Lys Gly Gly Tyr Phe Pro Val Ala Pro Asn			
180	185	190	
gac caa tac gtc gac ctg cgc gac aag atg ctg acc aac ctg atc aac			624
Asp Gln Tyr Val Asp Leu Arg Asp Lys Met Leu Thr Asn Leu Ile Asn			
195	200	205	
tcc ggc ttc atc ctg gag aag ggc cac cac gag gtg ggc agc ggc gga			672
Ser Gly Phe Ile Leu Glu Lys Gly His His Glu Val Gly Ser Gly Gly			
210	215	220	
cag gcc gag atc aac tac cag ttc aat tcg ctg ctg cac gcc gcc gac			720
Gln Ala Glu Ile Asn Tyr Gln Phe Asn Ser Leu Leu His Ala Ala Asp			
225	230	235	240
gac atg cag ttg tac aag tac atc atc aag aac acc gcc tgg cag aac			768
Asp Met Gln Leu Tyr Lys Tyr Ile Ile Lys Asn Thr Ala Trp Gln Asn			
245	250	255	
ggc aaa acg gtc acg ttc atg ccc aag ccg ctg ttc ggc gac aac ggg			816
Gly Lys Thr Val Thr Phe Met Pro Lys Pro Leu Phe Gly Asp Asn Gly			
260	265	270	

tcc ggc atg cac tgt cat cag tcg ctg tgg aag gac ggg gcc ccg ctg		864	
Ser Gly Met His Cys His Gln Ser Leu Trp Lys Asp Gly Ala Pro Leu			
275	280	285	
atg tac gac gag acg ggt tat gcc ggt ctg tcg gac acg gcc cgt cat		912	
Met Tyr Asp Glu Thr Gly Tyr Ala Gly Leu Ser Asp Thr Ala Arg His			
290	295	300	
tac atc ggc ggc ctg tta cac cac gcg ccg tcg ctg ctg gcc ttc acc		960	
Tyr Ile Gly Gly Leu Leu His His Ala Pro Ser Leu Leu Ala Phe Thr			
305	310	315	320
aac ccg acg gtg aac tcc tac aag cgg ctg gtt ccc ggt tac gag gcc		1008	
Asn Pro Thr Val Asn Ser Tyr Lys Arg Leu Val Pro Gly Tyr Glu Ala			
325	330	335	
ccg atc aac ctg gtc tat agc cag gcg aac cgg tcg gca tgc gtg cgc		1056	
Pro Ile Asn Leu Val Tyr Ser Gln Arg Asn Arg Ser Ala Cys Val Arg			
340	345	350	
atc ccg atc acc ggc agc aac ccg aag gcc aag cgg ctg gag ttc cga		1104	
Ile Pro Ile Thr Gly Ser Asn Pro Lys Ala Lys Arg Leu Glu Phe Arg			
355	360	365	
agc ccc gac tcg tcg ggc aac ccg tat ctg gcg ttc tcg gcc atg ctg		1152	
Ser Pro Asp Ser Ser Gly Asn Pro Tyr Leu Ala Phe Ser Ala Met Leu			
370	375	380	
atg gca ggc ctg gac ggt atc aag aac aag atc gag ccg cag gcg ccc		1200	
Met Ala Gly Leu Asp Gly Ile Lys Asn Lys Ile Glu Pro Gln Ala Pro			
385	390	395	400
gtc gac aag gat ctc tac gag ctg ccg ccg gaa gag gcc gcg agt atc		1248	
Val Asp Lys Asp Leu Tyr Glu Leu Pro Pro Glu Glu Ala Ala Ser Ile			
405	410	415	
ccg cag act ccg acc cag ctg tca gat gtg atc gac cgt ctc gag gcc		1296	
Pro Gln Thr Pro Thr Gln Leu Ser Asp Val Ile Asp Arg Leu Glu Ala			
420	425	430	
gac cac gaa tac ctc acc gaa gga ggg gtg ttc aca aac gac ctg atc		1344	
Asp His Glu Tyr Leu Thr Glu Gly Val Phe Thr Asn Asp Leu Ile			
435	440	445	
gag acg tgg atc agt ttc aag cgc gaa aac gag atc gag ccg gtc aac		1392	
Glu Thr Trp Ile Ser Phe Lys Arg Glu Asn Glu Ile Glu Pro Val Asn			
450	455	460	
atc cgg ccg cat ccc tac gaa ttc gcg ctg tac tac gac gtt taa		1437	
Ile Arg Pro His Pro Tyr Glu Phe Ala Leu Tyr Tyr Asp Val			
465	470	475	

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 <211> 687
 <212> DNA
 <213> *Mycobacterium tuberculosis*

<220>
 <221> CDS
 <222> (1)...(687)

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1 5 10 15	
tgt tcg ggt gtg gcc acg gcc gcg ccc aag acc tac tgc gag gag ttg	96
Cys Ser Gly Val Ala Thr Ala Ala Pro Lys Thr Tyr Cys Glu Glu Leu	
20 25 30	
aaa ggc acc gat acc ggc cag gcg tgc cag att caa atg tcc gac ccg	144
Lys Gly Thr Asp Thr Gly Gln Ala Cys Gln Ile Gln Met Ser Asp Pro	
35 40 45	
gcc tac aac atc aac atc agc ctg ccc agt tac tac ccc gac cag aag	192
Ala Tyr Asn Ile Asn Ile Ser Leu Pro Ser Tyr Tyr Pro Asp Gln Lys	
50 55 60	
tcg ctg gaa aat tac atc gcc cag acg cgc gac aag ttc ctc agc gcg	240
Ser Leu Glu Asn Tyr Ile Ala Gln Thr Arg Asp Lys Phe Leu Ser Ala	
65 70 75 80	
gcc aca tcg tcc act cca cgc gaa gcc ccc tac gaa ttg aat atc acc	288
Ala Thr Ser Ser Thr Pro Arg Glu Ala Pro Tyr Glu Leu Asn Ile Thr	
85 90 95	
tcg gcc aca tac cag tcc gcg ata ccg ccg cgt ggt acg cag gac gtc	336
Ser Ala Thr Tyr Gln Ser Ala Ile Pro Pro Arg Gly Thr Gln Ala Val	
100 105 110	
gtg ctc aag gtc tac cag aac gcc ggc ggc acg cac cca acg acc acg	384
Val Leu Lys Val Tyr Gln Asn Ala Gly Gly Thr His Pro Thr Thr Thr	
115 120 125	
tac aag gcc ttc gat tgg gac cag gcc tat cgc aag cca atc acc tat	432
Tyr Lys Ala Phe Asp Trp Asp Gln Ala Tyr Arg Lys Pro Ile Thr Tyr	
130 135 140	
gac acg ctg tgg cag gct gac acc gat ccg ctg cca gtc gtc ttc ccc	480
Asp Thr Leu Trp Gln Ala Asp Thr Asp Pro Leu Pro Val Val Phe Pro	
145 150 155 160	
att gtg caa ggt gaa ctg agc aag cag acc gga caa cag gta tcg ata	528
Ile Val Gln Gly Glu Leu Ser Lys Gln Thr Gly Gln Gln Val Ser Ile	
165 170 175	

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<211> 900
<212> DNA
<213> Mycobacterium tuberculosis
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<220>
<221> CDS
<222> (1)..(900)

<400> 95
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Met Lys Gly Arg Ser Ala Leu Leu Arg Ala Leu Trp Ile Ala Ala Leu
1 5 10 15

tca ttc ggg ttg ggc ggt gtc gcg gta gcc gcg gaa ccc acc gcc aag	96
Ser Phe Gly Leu Gly Gly Val Ala Val Ala Ala Glu Pro Thr Ala Lys	
20 25 30	

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gcc gcc cca tac gag aac ctg atg gtg ccg tcg ccc tcg atg ggc cgg 144
Ala Ala Pro Tyr Glu Asn Leu Met Val Pro Ser Pro Ser Met Gly Arg
            35          40          45

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gac atc ccg gtg gcc ttc cta gcc ggt ggg ccg cac gcg gtg tat ctg 192
Asp Ile Pro Val Ala Phe Leu Ala Gly Gly Pro His Ala Val Tyr Leu
      50          55          60

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ctg gac gcc ttc aac gcc ggc ccg gat gtc agt aac tgg gtc acc acc gcg 240
 Leu Asp Ala Phe Asn Ala Gly Pro Asp Val Ser Asn Trp Val Thr Ala
 65 70 75 80

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gg t aac gcg atg aac acg ttg gcg ggc aag ggg att tcg gtg gtg gca 288
Gly Asn Ala Met Asn Thr Leu Ala Gly Lys Gly Ile Ser Val Val Ala
85          90          95

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ccg gcc ggt ggt gcg tac agc atg tac acc aac tgg gag cag gat ggc	336
Pro Ala Gly Gly Ala Tyr Ser Met Tyr Thr Asn Trp Glu Gln Asp Gly	
100 105 110	
agc aag cag tgg gac acc ttc ttg tcc gct gag ctg ccc gac tgg ctg	384
Ser Lys Gln Trp Asp Thr Phe Leu Ser Ala Glu Leu Pro Asp Trp Leu	
115 120 125	
gcc gct aac cgg ggc ttg gcc ccc ggt ggc cat gcg gcc gtt ggc gcc	432
Ala Ala Asn Arg Gly Leu Ala Pro Gly Gly His Ala Ala Val Gly Ala	
130 135 140	
gct cag ggc ggt tac ggg gcg atg gcg ctg gcg gcc ttc cac ccc gac	480
Ala Gln Gly Gly Tyr Gly Ala Met Ala Leu Ala Ala Phe His Pro Asp	
145 150 155 160	
cgc ttc ggc ttc gct ggc tcg atg tcg ggc ttt ttg tac ccg tcg aac	528
Arg Phe Gly Phe Ala Gly Ser Met Ser Gly Phe Leu Tyr Pro Ser Asn	
165 170 175	
acc acc acc aac ggt gcg atc gcg gcg ggc atg cag caa ttc ggc ggt	576
Thr Thr Thr Asn Gly Ala Ile Ala Gly Met Gln Gln Phe Gly Gly	
180 185 190	
gtg gac acc aac gga atg tgg gga gca cca cag ctg ggt cgg tgg aag	624
Val Asp Thr Asn Gly Met Trp Gly Ala Pro Gln Leu Gly Arg Trp Lys	
195 200 205	
tgg cac gac ccg tgg gtg cat gcc agc ctg ctg gcg caa aac aac acc	672
Trp His Asp Pro Trp Val His Ala Ser Leu Leu Ala Gln Asn Asn Thr	
210 215 220	
cgg gtg tgg gtg tgg agc ccg acc aac ccg gga gcc agc gat ccc gcc	720
Arg Val Trp Val Trp Ser Pro Thr Asn Pro Gly Ala Ser Asp Pro Ala	
225 230 235 240	
gcc atg atc ggc caa gcc gcc gag gcg atg ggt aac agc cgc atg ttc	768
Ala Met Ile Gly Gln Ala Ala Glu Ala Met Gly Asn Ser Arg Met Phe	
245 250 255	
tac aac cag tat cgc agc gtc ggc ggg cac aac gga cac ttc gac ttc	816
Tyr Asn Gln Tyr Arg Ser Val Gly Gly His Asn Gly His Phe Asp Phe	
260 265 270	
cca gcc agc ggt gac aac ggc tgg ggc tcg tgg gcg ccc cag ctg ggc	864
Pro Ala Ser Gly Asp Asn Gly Trp Gly Ser Trp Ala Pro Gln Leu Gly	
275 280 285	
gct atg tcg ggc gat atc gtc ggt gcg atc cgc taa	900
Ala Met Ser Gly Asp Ile Val Gly Ala Ile Arg	
290 295 300	

<210> 96

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 96

Phe Ser Arg Pro Gly Leu Pro Val Glu Tyr Leu Gln Val Pro Ser
1 5 10 15

<210> 97

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 97

Leu Pro Val Glu Tyr Leu Gln Val Pro Ser Pro Ser Met Gly Arg
1 5 10 15

<210> 98

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 98

Leu Gln Val Pro Ser Pro Ser Met Gly Arg Asp Ile Lys Val Gln
1 5 10 15

<210> 99

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 99

Pro Ser Met Gly Arg Asp Ile Lys Val Gln Phe Gln Ser Gly Gly
1 5 10 15

<210> 100

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 100

Asp Ile Lys Val Gln Phe Gln Ser Gly Gly Ala Asn Ser Pro Ala
1 5 10 15

<210> 101

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 101
Phe Gln Ser Gly Gly Ala Asn Ser Pro Ala Leu Tyr Leu Leu Asp
1 5 10 15

<210> 102
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 102
Ala Asn Ser Pro Ala Leu Tyr Leu Leu Asp Gly Leu Arg Ala Gln
1 5 10 15

<210> 103
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 103
Leu Tyr Leu Leu Asp Gly Leu Arg Ala Gln Asp Asp Phe Ser Gly
1 5 10 15

<210> 104
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 104
Gly Leu Arg Ala Gln Asp Asp Phe Ser Gly Trp Asp Ile Asn Thr
1 5 10 15

<210> 105
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 105
Asp Asp Phe Ser Gly Trp Asp Ile Asn Thr Pro Ala Phe Glu Trp
1 5 10 15

<210> 106
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 106
Trp Asp Ile Asn Thr Pro Ala Phe Glu Trp Tyr Asp Gln Ser Gly
1 5 10 15

<210> 107

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 107

Pro Ala Phe Glu Trp Tyr Asp Gln Ser Gly Leu Ser Val Val Met
1 5 10 15

<210> 108

<211> 16

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 108

Tyr Asp Gln Ser Gly Leu Ser Val Val Met Pro Val Val Gly Gly Gln
1 5 10 15

<210> 109

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 109

Leu Ser Val Val Met Pro Val Gly Gly Gln Ser Ser Phe Tyr Ser
1 5 10 15

<210> 110

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 110

Pro Val Gly Gly Gln Ser Ser Phe Tyr Ser Asp Trp Tyr Gln Pro
1 5 10 15

<210> 111

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 111

Ser Ser Phe Tyr Ser Asp Trp Tyr Gln Pro Ala Cys Gly Lys Ala
1 5 10 15

<210> 112

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 112

Asp Trp Tyr Gln Pro Ala Cys Gly Lys Ala Gly Cys Gln Thr Tyr
1 5 10 15

<210> 113

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 113

Ala Cys Gly Lys Ala Gly Cys Gln Thr Tyr Lys Trp Glu Thr Phe
1 5 10 15

<210> 114

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 114

Gly Cys Gln Thr Tyr Lys Trp Glu Thr Phe Leu Thr Ser Glu Leu
1 5 10 15

<210> 115

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 115

Lys Trp Glu Thr Phe Leu Thr Ser Glu Leu Pro Gly Trp Leu Gln
1 5 10 15

<210> 116

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 116

Leu Thr Ser Glu Leu Pro Gly Trp Leu Gln Ala Asn Arg His Val
1 5 10 15

<210> 117

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 117
Pro Gly Trp Leu Gln Ala Asn Arg His Val Lys Pro Thr Gly Ser
1 5 10 15

<210> 118
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 118
Ala Asn Arg His Val Lys Pro Thr Gly Ser Ala Val Val Gly Leu
1 5 10 15

<210> 119
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 119
Lys Pro Thr Gly Ser Ala Val Val Gly Leu Ser Met Ala Ala Ser
1 5 10 15

<210> 120
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*)

<400> 120
Ala Val Val Gly Leu Ser Met Ala Ala Ser Ser Ala Leu Thr Leu
1 5 10 15

<210> 121
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 121
Ser Met Ala Ala Ser Ser Ala Leu Thr Leu Ala Ile Tyr His Pro
1 5 10 15

<210> 122
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 122
Ser Ala Leu Thr Leu Ala Ile Tyr His Pro Gln Gln Phe Val Tyr
1 5 10 15

<210> 123

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 123

Ala Ile Tyr His Pro Gln Gln Phe Val Tyr Ala Gly Ala Met Ser
1 5 10 15

<210> 124

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 124

Gln Gln Phe Val Tyr Ala Gly Ala Met Ser Gly Leu Leu Asp Pro
1 5 10 15

<210> 125

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 125

Ala Gly Ala Met Ser Gly Leu Leu Asp Pro Ser Gln Ala Met Gly
1 5 10 15

<210> 126

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 126

Gly Leu Leu Asp Pro Ser Gln Ala Met Gly Pro Thr Leu Ile Gly
1 5 10 15

<210> 127

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 127

Ser Gln Ala Met Gly Pro Thr Leu Ile Gly Leu Ala Met Gly Asp
1 5 10 15

<210> 128

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 128

Pro Thr Leu Ile Gly Leu Ala Met Gly Asp Ala Gly Gly Tyr Lys
1 5 10 15

<210> 129

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 129

Leu Ala Met Gly Asp Ala Gly Gly Tyr Lys Ala Ser Asp Met Trp
1 5 10 15

<210> 130

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 130

Ala Gly Gly Tyr Lys Ala Ser Asp Met Trp Gly Pro Lys Glu Asp
1 5 10 15

<210> 131

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 131

Ala Ser Asp Met Trp Gly Pro Lys Glu Asp Pro Ala Trp Gln Arg
1 5 10 15

<210> 132

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 132

Gly Pro Lys Glu Asp Pro Ala Trp Gln Arg Asn Asp Pro Leu Leu
1 5 10 15

<210> 133

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 133
Pro Ala Trp Gln Arg Asn Asp Pro Leu Leu Asn Val Gly Lys Leu
1 5 10 15

<210> 134
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 134
Asn Asp Pro Leu Leu Asn Val Gly Lys Leu Ile Ala Asn Asn Thr
1 5 10 15

<210> 135
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 135
Asn Val Gly Lys Leu Ile Ala Asn Asn Thr Arg Val Trp Val Tyr
1 5 10 15

<210> 136
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 136
Ile Ala Asn Asn Thr Arg Val Trp Val Tyr Cys Gly Asn Gly Lys
1 5 10 15

<210> 137
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 137
Arg Val Trp Val Tyr Cys Gly Asn Gly Lys Pro Ser Asp Leu Gly
1 5 10 15

<210> 138
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 138
Cys Gly Asn Gly Lys Pro Ser Asp Leu Gly Gly Asn Asn Leu Pro
1 5 10 15

<210> 139
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 139
Pro Ser Asp Leu Gly Gly Asn Asn Leu Pro Ala Lys Phe Leu Glu
1 5 10 15

<210> 140
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 140
Gly Asn Asn Leu Pro Ala Lys Phe Leu Glu Gly Phe Val Arg Thr
1 5 10 15

<210> 141
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 141
Ala Lys Phe Leu Glu Gly Phe Val Arg Thr Ser Asn Ile Lys Phe
1 5 10 15

<210> 142
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 142
Gly Phe Val Arg Thr Ser Asn Ile Lys Phe Gln Asp Ala Tyr Asn
1 5 10 15

<210> 143
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 143
Ser Asn Ile Lys Phe Gln Asp Ala Tyr Asn Ala Gly Gly Gly His
1 5 10 15

<210> 144

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 144

Gln Asp Ala Tyr Asn Ala Gly Gly Gly His Asn Gly Val Phe Asp
1 5 10 15

<210> 145

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 145

Ala Gly Gly Gly His Asn Gly Val Phe Asp Phe Pro Asp Ser Gly
1 5 10 15

<210> 146

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 146

Asn Gly Val Phe Asp Phe Pro Asp Ser Gly Thr His Ser Trp Glu
1 5 10 15

<210> 147

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 147

Phe Pro Asp Ser Gly Thr His Ser Trp Glu Tyr Trp Gly Ala Gln
1 5 10 15

<210> 148

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 148

Thr His Ser Trp Glu Tyr Trp Gly Ala Gln Leu Asn Ala Met Lys
1 5 10 15

<210> 149

<211> 15

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 149
Tyr Trp Gly Ala Gln Leu Asn Ala Met Lys Pro Asp Leu Gln Arg
1 5 10 15

<210> 150
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 150
Leu Asn Ala Met Lys Pro Asp Leu Gln Arg Ala Leu Gly Ala Thr
1 5 10 15

<210> 151
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 151
Pro Asp Leu Gln Arg Ala Leu Gly Ala Thr Pro Asn Thr Gly Pro
1 5 10 15

<210> 152
<211> 15
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 152
Ala Leu Gly Ala Thr Pro Asn Thr Gly Pro Ala Pro Gln Gly Ala
1 5 10 15

<210> 153
<211> 18
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 153
Phe Ser Arg Pro Gly Leu Pro Val Glu Tyr Leu Gln Val Pro Ser Pro
1 5 10 15

Ser Met

<210> 154
<211> 16
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 154
Asp Ile Lys Val Gln Phe Gln Ser Gly Gly Ala Asn Ser Pro Ala Leu
1 5 10 15

<210> 155
<211> 17
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 155
Pro Val Gly Gly Gln Ser Ser Phe Tyr Ser Asp Trp Tyr Gln Pro Ala
1 5 10 15

Cys

<210> 156
<211> 17
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 156
Ser Met Ala Ala Ser Ser Ala Leu Thr Leu Ala Ile Tyr His Pro Gln
1 5 10 15

Gln

<210> 157
<211> 18
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 157
Pro Gln Gln Phe Val Tyr Ala Gly Ala Met Ser Gly Leu Leu Asp Pro
1 5 10 15

Ser Gln

<210> 158
<211> 17
<212> PRT
<213> *Mycobacterium tuberculosis*

<400> 158
Cys Gly Asn Gly Lys Pro Ser Asp Leu Gly Gly Asn Asn Leu Pro Ala
1 5 10 15

Lys

<210> 159

<211> 16

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 159

Phe Gln Asp Ala Tyr Asn Ala Gly Gly Gly His Asn Gly Val Phe Asp
1 5 10 15

<210> 160

<211> 14

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 160

Pro Asp Leu Gln Arg Ala Leu Gly Ala Thr Pro Asn Thr Gly
1 5 10

<210> 161

<211> 325

<212> PRT

<213> *Mycobacterium tuberculosis*

<400> 161

Met Thr Asp Val Ser Arg Lys Ile Arg Ala Trp Gly Arg Arg Leu Met
1 5 10 15Ile Gly Thr Ala Ala Ala Val Val Leu Pro Gly Leu Val Gly Leu Ala
20 25 30Gly Gly Ala Ala Thr Ala Gly Ala Phe Ser Arg Pro Gly Leu Pro Val
35 40 45Glu Tyr Leu Gln Val Pro Ser Pro Ser Met Gly Arg Asp Ile Lys Val
50 55 60Gln Phe Gln Ser Gly Gly Asn Asn Ser Pro Ala Val Tyr Leu Leu Asp
65 70 75 80Gly Leu Arg Ala Gln Asp Asp Tyr Asn Gly Trp Asp Ile Asn Thr Pro
85 90 95Ala Phe Glu Trp Tyr Tyr Gln Ser Gly Leu Ser Ile Val Met Pro Val
100 105 110Gly Gly Gln Ser Ser Phe Tyr Ser Asp Trp Tyr Ser Pro Ala Cys Gly
115 120 125

Lys Ala Gly Cys Gln Thr Tyr Lys Trp Glu Thr Phe Leu Thr Ser Glu
 130 135 140

Leu Pro Gln Trp Leu Ser Ala Asn Arg Ala Val Lys Pro Thr Gly Ser
 145 150 155 160

Ala Ala Ile Gly Leu Ser Met Ala Gly Ser Ser Ala Met Ile Leu Ala
 165 170 175

Ala Tyr His Pro Gln Gln Phe Ile Tyr Ala Gly Ser Leu Ser Ala Leu
 180 185 190

Leu Asp Pro Ser Gln Gly Met Gly Pro Ser Leu Ile Gly Leu Ala Met
 195 200 205

Gly Asp Ala Gly Gly Tyr Lys Ala Ala Asp Met Trp Gly Pro Ser Ser
 210 215 220

Asp Pro Ala Trp Glu Arg Asn Asp Pro Thr Gln Gln Ile Pro Lys Leu
 225 230 235 240

Val Ala Asn Asn Thr Arg Leu Trp Val Tyr Cys Gly Asn Gly Thr Pro
 245 250 255

Asn Glu Leu Gly Gly Ala Asn Ile Pro Ala Glu Phe Leu Glu Asn Phe
 260 265 270

Val Arg Ser Ser Asn Leu Lys Phe Gln Asp Ala Tyr Asn Ala Ala Gly
 275 280 285

Gly His Asn Ala Val Phe Asn Phe Pro Pro Asn Gly Thr His Ser Trp
 290 295 300

Glu Tyr Trp Gly Ala Gln Leu Asn Ala Met Lys Gly Asp Leu Gln Ser
 305 310 315 320

Ser Leu Gly Ala Gly
 325

<210> 162
 <211> 338
 <212> PRT
 <213> *Mycobacterium tuberculosis*

<400> 162
 Met Gln Leu Val Asp Arg Val Arg Gly Ala Val Thr Gly Met Ser Arg
 1 5 10 15

Arg Leu Val Val Gly Ala Val Gly Ala Ala Leu Val Ser Gly Leu Val
 20 25 30

Gly Ala Val Gly Gly Thr Ala Thr Ala Gly Ala Phe Ser Arg Pro Gly
 35 40 45

Leu Pro Val Glu Tyr Leu Gln Val Pro Ser Pro Ser Met Gly Arg Asp
 50 55 60

Ile Lys Val Gln Phe Gln Ser Gly Gly Ala Asn Ser Pro Ala Leu Tyr
 65 70 75 80

Leu Leu Asp Gly Leu Arg Ala Gln Asp Asp Phe Ser Gly Trp Asp Ile
 85 90 95

Asn Thr Pro Ala Phe Glu Trp Tyr Asp Gln Ser Gly Leu Ser Val Val
 100 105 110

Met Pro Val Gly Gly Gln Ser Ser Phe Tyr Ser Asp Trp Tyr Gln Pro
 115 120 125

Ala Cys Gly Lys Ala Gly Cys Gln Thr Tyr Lys Trp Glu Thr Phe Leu
 130 135 140

Thr Ser Glu Leu Pro Gly Trp Leu Gln Ala Asn Arg His Val Lys Pro
 145 150 155 160

Thr Gly Ser Ala Val Val Gly Leu Ser Met Ala Ala Ser Ser Ala Leu
 165 170 175

Thr Leu Ala Ile Tyr His Pro Gln Gln Phe Val Tyr Ala Gly Ala Met
 180 185 190

Ser Gly Leu Leu Asp Pro Ser Gln Ala Met Gly Pro Thr Leu Ile Gly
 195 200 205

Leu Ala Met Gly Asp Ala Gly Gly Tyr Lys Ala Ser Asp Met Trp Gly
 210 215 220

Pro Lys Glu Asp Pro Ala Trp Gln Arg Asn Asp Pro Leu Leu Asn Val
 225 230 235 240

Gly Lys Leu Ile Ala Asn Asn Thr Arg Val Trp Val Tyr Cys Gly Asn
 245 250 255

Gly Lys Pro Ser Asp Leu Gly Gly Asn Asn Leu Pro Ala Lys Phe Leu
 260 265 270

Glu Gly Phe Val Arg Thr Ser Asn Ile Lys Phe Gln Asp Ala Tyr Asn
 275 280 285

Ala Gly Gly Gly His Asn Gly Val Phe Asp Phe Pro Asp Ser Gly Thr
 290 295 300

His Ser Trp Glu Tyr Trp Gly Ala Gln Leu Asn Ala Met Lys Pro Asp
 305 310 315 320

Leu Gln Arg Ala Leu Gly Ala Thr Pro Asn Thr Gly Pro Ala Pro Gln
 325 330 335

Gly Ala

<210> 163
 <211> 159
 <212> PRT
 <213> *Mycobacterium tuberculosis*

<400> 163
 Met Lys Leu Thr Thr Met Ile Lys Thr Ala Val Ala Val Val Ala Met
 1 5 10 15

Ala Ala Ile Ala Thr Phe Ala Ala Pro Val Ala Leu Ala Ala Tyr Pro
 20 25 30

Ile Thr Glu Lys Leu Gly Ser Glu Leu Thr Met Thr Asp Thr Val Gly
 35 40 45

Gln Val Val Leu Gly Trp Lys Val Ser Asp Leu Lys Ser Ser Thr Ala
 50 55 60

Val Ile Pro Gly Tyr Pro Val Ala Gly Gln Val Trp Glu Ala Thr Ala
 65 70 75 80

Thr Val Asn Ala Ile Arg Gly Ser Val Thr Pro Ala Val Ser Gln Phe
 85 90 95

Asn Ala Arg Thr Ala Asp Gly Ile Asn Tyr Arg Val Leu Trp Gln Ala
 100 105 110

Ala Gly Pro Asp Thr Ile Ser Gly Ala Thr Ile Pro Gln Gly Glu Gln
 115 120 125

Ser Thr Gly Lys Ile Tyr Phe Asp Val Thr Gly Pro Ser Pro Thr Ile
 130 135 140

Val Ala Met Asn Asn Gly Met Glu Asp Leu Leu Ile Trp Glu Pro
 145 150 155

<210> 164
 <211> 478
 <212> PRT
 <213> *Mycobacterium tuberculosis*

<400> 164
 Val Thr Glu Lys Thr Pro Asp Asp Val Phe Lys Leu Ala Lys Asp Glu
 1 5 10 15

Lys Val Glu Tyr Val Asp Val Arg Phe Cys Asp Leu Pro Gly Ile Met
 20 25 30

Gln His Phe Thr Ile Pro Ala Ser Ala Phe Asp Lys Ser Val Phe Asp
 35 40 45

Asp Gly Leu Ala Phe Asp Gly Ser Ser Ile Arg Gly Phe Gln Ser Ile
 50 55 60

His Glu Ser Asp Met Leu Leu Leu Pro Asp Pro Glu Thr Ala Arg Ile
 65 70 75 80

Asp Pro Phe Arg Ala Ala Lys Thr Leu Asn Ile Asn Phe Phe Val His
 85 90 95

Asp Pro Phe Thr Leu Glu Pro Tyr Ser Arg Asp Pro Arg Asn Ile Ala
 100 105 110

Arg Lys Ala Glu Asn Tyr Leu Ile Ser Thr Gly Ile Ala Asp Thr Ala
 115 120 125

Tyr Phe Gly Ala Glu Ala Glu Phe Tyr Ile Phe Asp Ser Val Ser Phe
 130 135 140

Asp Ser Arg Ala Asn Gly Ser Phe Tyr Glu Val Asp Ala Ile Ser Gly
 145 150 155 160

Trp Trp Asn Thr Gly Ala Ala Thr Glu Ala Asp Gly Ser Pro Asn Arg
 165 170 175

Gly Tyr Lys Val Arg His Lys Gly Gly Tyr Phe Pro Val Ala Pro Asn
 180 185 190

Asp Gln Tyr Val Asp Leu Arg Asp Lys Met Leu Thr Asn Leu Ile Asn
 195 200 205

Ser Gly Phe Ile Leu Glu Lys Gly His His Glu Val Gly Ser Gly Gly
 210 215 220

Gln Ala Glu Ile Asn Tyr Gln Phe Asn Ser Leu Leu His Ala Ala Asp
 225 230 235 240

Asp Met Gln Leu Tyr Lys Tyr Ile Ile Lys Asn Thr Ala Trp Gln Asn
 245 250 255

Gly Lys Thr Val Thr Phe Met Pro Lys Pro Leu Phe Gly Asp Asn Gly
 260 265 270

Ser Gly Met His Cys His Gln Ser Leu Trp Lys Asp Gly Ala Pro Leu
 275 280 285

Met Tyr Asp Glu Thr Gly Tyr Ala Gly Leu Ser Asp Thr Ala Arg His
 290 295 300

Tyr Ile Gly Gly Leu Leu His His Ala Pro Ser Leu Leu Ala Phe Thr
 305 310 315 320
 Asn Pro Thr Val Asn Ser Tyr Lys Arg Leu Val Pro Gly Tyr Glu Ala
 325 330 335
 Pro Ile Asn Leu Val Tyr Ser Gln Arg Asn Arg Ser Ala Cys Val Arg
 340 345 350
 Ile Pro Ile Thr Gly Ser Asn Pro Lys Ala Lys Arg Leu Glu Phe Arg
 355 360 365
 Ser Pro Asp Ser Ser Gly Asn Pro Tyr Leu Ala Phe Ser Ala Met Leu
 370 375 380
 Met Ala Gly Leu Asp Gly Ile Lys Asn Lys Ile Glu Pro Gln Ala Pro
 385 390 395 400
 Val Asp Lys Asp Leu Tyr Glu Leu Pro Pro Glu Glu Ala Ala Ser Ile
 405 410 415
 Pro Gln Thr Pro Thr Gln Leu Ser Asp Val Ile Asp Arg Leu Glu Ala
 420 425 430
 Asp His Glu Tyr Leu Thr Glu Gly Gly Val Phe Thr Asn Asp Leu Ile
 435 440 445
 Glu Thr Trp Ile Ser Phe Lys Arg Glu Asn Glu Ile Glu Pro Val Asn
 450 455 460
 Ile Arg Pro His Pro Tyr Glu Phe Ala Leu Tyr Tyr Asp Val
 465 470 475

<210> 165
 <211> 228
 <212> PRT
 <213> *Mycobacterium tuberculosis*

<400> 165
 Val Arg Ile Lys Ile Phe Met Leu Val Thr Ala Val Val Leu Leu Cys
 1 5 10 15
 Cys Ser Gly Val Ala Thr Ala Ala Pro Lys Thr Tyr Cys Glu Glu Leu
 20 25 30
 Lys Gly Thr Asp Thr Gly Gln Ala Cys Gln Ile Gln Met Ser Asp Pro
 35 40 45
 Ala Tyr Asn Ile Asn Ile Ser Leu Pro Ser Tyr Tyr Pro Asp Gln Lys
 50 55 60

Ser Leu Glu Asn Tyr Ile Ala Gln Thr Arg Asp Lys Phe Leu Ser Ala
 65 70 75 80

Ala Thr Ser Ser Thr Pro Arg Glu Ala Pro Tyr Glu Leu Asn Ile Thr
 85 90 95

Ser Ala Thr Tyr Gln Ser Ala Ile Pro Pro Arg Gly Thr Gln Ala Val
 100 105 110

Val Leu Lys Val Tyr Gln Asn Ala Gly Gly Thr His Pro Thr Thr Thr
 115 120 125

Tyr Lys Ala Phe Asp Trp Asp Gln Ala Tyr Arg Lys Pro Ile Thr Tyr
 130 135 140

Asp Thr Leu Trp Gln Ala Asp Thr Asp Pro Leu Pro Val Val Phe Pro
 145 150 155 160

Ile Val Gln Gly Glu Leu Ser Lys Gln Thr Gly Gln Gln Val Ser Ile
 165 170 175

Ala Pro Asn Ala Gly Leu Asp Pro Val Asn Tyr Gln Asn Phe Ala Val
 180 185 190

Thr Asn Asp Gly Val Ile Phe Phe Asn Pro Gly Glu Leu Leu Pro
 195 200 205

Glu Ala Ala Gly Pro Thr Gln Val Leu Val Pro Arg Ser Ala Ile Asp
 210 215 220

Ser Met Leu Ala
 225

<210> 166
 <211> 299
 <212> PRT
 <213> *Mycobacterium tuberculosis*

<400> 166
 Met Lys Gly Arg Ser Ala Leu Leu Arg Ala Leu Trp Ile Ala Ala Leu
 1 5 10 15

Ser Phe Gly Leu Gly Gly Val Ala Val Ala Ala Glu Pro Thr Ala Lys
 20 25 30

Ala Ala Pro Tyr Glu Asn Leu Met Val Pro Ser Pro Ser Met Gly Arg
 35 40 45

Asp Ile Pro Val Ala Phe Leu Ala Gly Gly Pro His Ala Val Tyr Leu
 50 55 60

Leu Asp Ala Phe Asn Ala Gly Pro Asp Val Ser Asn Trp Val Thr Ala
 65 70 75 80
 Gly Asn Ala Met Asn Thr Leu Ala Gly Lys Gly Ile Ser Val Val Ala
 85 90 95
 Pro Ala Gly Gly Ala Tyr Ser Met Tyr Thr Asn Trp Glu Gln Asp Gly
 100 105 110
 Ser Lys Gln Trp Asp Thr Phe Leu Ser Ala Glu Leu Pro Asp Trp Leu
 115 120 125
 Ala Ala Asn Arg Gly Leu Ala Pro Gly Gly His Ala Ala Val Gly Ala
 130 135 140
 Ala Gln Gly Gly Tyr Gly Ala Met Ala Leu Ala Ala Phe His Pro Asp
 145 150 155 160
 Arg Phe Gly Phe Ala Gly Ser Met Ser Gly Phe Leu Tyr Pro Ser Asn
 165 170 175
 Thr Thr Thr Asn Gly Ala Ile Ala Ala Gly Met Gln Gln Phe Gly Gly
 180 185 190
 Val Asp Thr Asn Gly Met Trp Gly Ala Pro Gln Leu Gly Arg Trp Lys
 195 200 205
 Trp His Asp Pro Trp Val His Ala Ser Leu Leu Ala Gln Asn Asn Thr
 210 215 220
 Arg Val Trp Val Trp Ser Pro Thr Asn Pro Gly Ala Ser Asp Pro Ala
 225 230 235 240
 Ala Met Ile Gly Gln Ala Ala Glu Ala Met Gly Asn Ser Arg Met Phe
 245 250 255
 Tyr Asn Gln Tyr Arg Ser Val Gly Gly His Asn Gly His Phe Asp Phe
 260 265 270
 Pro Ala Ser Gly Asp Asn Gly Trp Gly Ser Trp Ala Pro Gln Leu Gly
 275 280 285
 Ala Met Ser Gly Asp Ile Val Gly Ala Ile Arg
 290 295

<210> 167
 <211> 7
 <212> PRT
 <213> *Mycobacterium tuberculosis*

<400> 167
Phe Ser Arg Pro Gly Leu Pro
1 5